



The N. M. Paterson and Company elevator at Fort William, Ontario. Percy C. Poulton, President of the Society of Superintendents, is in charge of the plant.

# GRAIN

PLANT OPERATION AND MAINTENANCE

MAY • 1940





## TEN BUCKS IS A LOTTA DOUGH

I'LL buy a lot of pork and beans at the price of pork these days. It'll set me up with a new Stetson or a pair of bumper guards for the family car. It'll get me shod in a new pair of Bostonians or it will make a down payment on a new radio.

Yes, sir, ten bucks is a lotta dough.

Lotta fishing tackle in ten bucks. Boy, wouldn't a ten-spot added to the family budget get me out of the dog house in a hurry sometime? Wouldn't the little woman perk up with a new bonnet or Junior with a new Boy Scout rig?

Plenty of power in ten bucks.

Takes a lot of thought before ten bucks gets sent away in the mail with nothing in the way of merchandise coming back for it. No shoes, or hats or bundles to replace it. But the Superintendents who do pay out ten bucks have thought about it. There isn't a one of them who has so much money that he can just check out ten bucks without thinking about what's coming back in return.

They've thought about it, yes sir; and year after year they check out ten bucks for the returns that they actually get. They find that those returns are something with real value, a type of insurance that can't be bought individually, an insurance that you will be kept in touch with the activities of your industry. You will be insured against falling behind in an ever-progressing trade. Write to the Secretary today for an application blank and let him explain the advantages that membership brings.

## SOCIETY OF GRAIN ELEVATOR SUPERINTENDENTS

Board of Trade Building

Chicago, Illinois

# Editorial

---

## "LEST WE FORGET"

By Clarence W. Turning

EVENTS in Europe preclude the possibility that any of us will need to be reminded of the significance of Memorial Day this year of 1940.

Yet we may forget the fact that while life seems cheap on the fields of Flanders it is still precious on the North American continent. The lives that are sacrificed to carelessness and negligence in industry every day are sacrificed nonetheless. It is vital to North American life to eliminate the cause of preventable accidents just as it is significant to deplore the cause of the widespread suffering and bloodshed on the battlefield.

In spite of the constant promotion of safety contests and safety campaigns the accident record of the industry remains about the same. Some plants achieve splendid records, some fair. But a general average shows no outstanding improvement. The experience of the industry remains below par and there has already been some indication that compensation insurance rates would be raised accordingly.

The case calls for redoubled effort on the part of all Superintendents. Both as individuals and as a group they must spare no effort to bring their accident record into the lowest bracket.

Two advantages are inherent in the Fourth Annual Safety Contest sponsored by the Superintendents' Society. First, the element of competition stimulates safety consciousness; and second, the tabulation of statistics provided in the monthly reports provide a basis for planning future accident-prevention campaigns. Join the contest now and contribute to the advancement of the industry. Make it possible for your association to plan and execute better and more thorough education campaigns by lending your full support.

---

GRAIN, Board of Trade, 141 W. Jackson Boulevard, Chicago, Ill. Telephone Wabash 3111. A forum for operative and mechanical problems in terminal elevators. Published monthly on the tenth, \$1.00 per year. DEAN M. CLARK, Publisher; JOE MOSEY, Editor; WERNER HAUPTLI, 56 W. 45th Street, New York, Murray Hill 2-8763.





for  
**SAFETY  
EDUCATION**

Three talkie films on the different aspects of the safety problem have been made available for group showing by the Superintendent's Society. The necessary equipment for showing these 16 mm strips can be procured in your own city, and the small rental charge of five dollars (plus shipping) for the three makes it possible for you to present an interesting and educational program at very little cost. Write to the Secretary for open dates.

● **Dangerous Dusts**

A filming of recent explosions, their causes and their prevention.

● **The Fall Guy**

A summary of prevention lessons for the commonest cause of industrial accidents.

● **Open for Infection**

Lessons in first aid and the prevention of infections aptly pictured.

**Society of  
Grain Elevator  
Superintendents**

●  
4100 Board of Trade  
●  
Chicago

## *Inaugural*

### **To the Members of the Society:**

**Y**OU have seen fit to elect me as your President for 1940-41 and I desire to tender you my sincere thanks for the faith you have thus shown in me. I pledge myself to serve you and the Society to the very best of my ability during my encumbency as your first officer.

I would, however, like to point out to you all at this time that no matter how energetic your officers may be in the interests of your Society and the trade in which we work, we must record definite progress and advancements if we are to justify our existence.

The very best idea that I can suggest to you all is to have you read more carefully the aims and objects of your Society which are very plainly worded on your membership cards.

Our aims and objects are very concise and have a real meaning. There can be no objection to them by either our membership or our employers. Therefore, let us all do some sharp thinking as to how best such aims and objects may be made both operative and truly useful in the largest possible sense.

The magazine *GRAIN* is at your disposal to carry to your contemporaries any ideas that you may care to enlarge upon.

Perhaps your most successful ideas are not yet ready for commitment to paper. Then resolve right now to study them further and make ready to give your contribution at the next Chapter meeting or the next Convention, thereby adding your bit to the Society which aims to help every one of its members and of the trade in which we work.

Do some real thinking, won't you? Be alive to the great possibilities that your Society gives you to be of assistance to others and also to improve your own standing. Then watch us grow and—what is perhaps as important—earn the respect of our trade.

In our midst there are some really stout fellows, fellows with hearts and minds constantly trying to improve themselves and to do something to help others. Let us all join them and push our Society up to the pinnacle that it has every right to reach by virtue of the unselfish aims and objects it is striving to achieve.

**Percy C. Poulton, President**

Society of Grain Elevator  
Superintendents



## Our Best Defense Is a Good Offense

# Collect That Dust

## For Greater Safety From Explosions

By C. E. Hackleman

Sunset Elevator, Galveston, Texas

THE arguments and discussions still go on about dust explosions in grain elevators. Some say this, some that; but it seems that we still have a certain number of explosions each year in spite of all our worry and concern.

There has been lots of talk about static electricity, sparks from motors, sparks in the legs, sparks here and sparks there. Yet if all the usual sources of sparks were entirely eliminated, there would still be the chance for sparks to originate from the grain itself, in its movement from the field to the bin on the farm, from there to the railroad car and so on to the elevator. And the sparks could be caused by many different things. For illustration, some farmer, some harvest hand or some farmer's boy could drop into the grain or lose from his pocket any one of numerous articles which, when elevated at the terminal, could easily provide the necessary spark for a dust explosion.



### In the Elevator

▲ In the elevator proper there is always the chance that some falling object may strike against concrete; and with floating dust in the air everywhere, may furnish a spark for the ignition of the cloud. There are so many ways that sparks may be inadvertently produced that there is not room to list them here.

In my opinion it is futile to attempt to eliminate all the possible sources of sparks. The sensible solution lies it seems, in controlling the dust at the point of its origin. I have always been taught that the best defense is

to kill the enemy's offense at its source.

It happened to be my privilege some time ago to work in an elevator that I now consider was about 50% equipped for control of dust. Only the conveyor legs and the shipping belts were so equipped because of the fact that there was a state law in that state prohibiting air suction of any kind on the receiving legs or pits or other equipment that entered into the unloading of the grain.

### Dust Is Captured

▲ In this plant there were two shipping legs. Located at the junction of each leg and the conveyor was a large fan that not only drew all the fine dust from the grain at the point of discharge into the leg but also from the bin discharge. In this way all the fine dust was captured before it had a chance to get out into the air. Each duct was fitted with a valve so that only those in use need be opened.

At no time while loading out or turning grain in that elevator did I see a dirty basement. There was no fine dust floating in the air. It was more like working in the office as far as dust was concerned. But when we were unloading or using the receiving legs in any way it was an altogether different story. Sweeping had to be done in the basement then.

It seems almost childish to me to have laws prohibiting the control of dust from unloading cars when the risk to human lives and property is so great.

Tests show that the control of the fine dust—which is the most dangerous—would not amount to more than seven pounds minimum, 30 pounds maximum, per car load. That's less than half a bushel in 2,000 or so, a very small item on a carload of grain. Of course, the operator would have the same shrinkage when he loaded the

grain or conditioned it in the elevator, but that would still be a very small price to pay for safety. In the last few years there has been a slow but steady demand from the milling trade for cleaner grain. It seems to me that from effective dust collection systems everyone concerned would finally benefit. I am at least certain that the loss of life and the property damage caused by dust explosions each year would be greatly reduced.

### Open Spouts

▲ In grain elevator design it has been the practice in the past to build overhead bins in workhouses so that they discharge into the boots from open spouts. It would be just as practical to plan centralized distribution points so that air suction could be more easily applied to remove the fine dust. In the average workhouse this would necessitate two or three of these distribution centers with different groups of bins discharging into different legs.

Now comes the big question. What will be the cost for effective dust control? Frankly, I do not know; but evidently the cost would be much smaller than the cost of repairing an elevator after only a minor explosion. (If there is such a thing as a minor explosion.) The systems now in use could in all probability be used as a unit about which to complete the system. That should keep the cost down to a reasonable figure. There are several reliable firms in the country that will furnish estimates free of charge.

Let me say in closing that I sincerely believe that if the Society of Elevator Superintendents can bring together the owners, operators, managers, designers and legislators and solve this problem of effective dust control, they will make a contribution to the industry that will not be surpassed in the generation.



# PLANT UPKEEP AND MAINTENANCE

By E. H. Karp

FARM CREDIT ADMINISTRATION

**I** HAVE been invited, or I might better express it, drafted to write on maintenance of elevator plants. As it has been my lot for many years to supervise maintenance rather than do the actual work, I am in a different position from that of the operating men with the result that I view maintenance from a different angle.

This may result in my making statements that may stir up a lot of argument, but I think that the arguments will be of benefit to us.

One of the most important points about proper maintenance is that in the long run it reduces operating costs. From a maintenance standpoint delay in maintenance or repair always increases the ultimate cost. Some of you who may operate facilities under my supervision may wonder why I don't practice what I preach, but I am in the same position as the rest of you. It is sometimes rather difficult to convince our superiors, especially when they think the money could be used to better advantage in other places. That, however, does not altar the facts.

## Know Your Mechanics

▲ An elevator superintendent should not only be a good grain man, but should also have working knowledge of machinery and electricity in order to properly supervise the men working under him. I have in some instances come in contact with superintendents who were excellent grain men but were handicapped by a lack of knowledge of mechanics and electricity.

Schools are held at various times at central locations for the teaching of grain grading and testing and there is considerable literature on the subject, but there is practically nothing of this character on the elevator or its equipment. The result is that each of us must rely on the experience gained in our individual field. It has been my hope that this organization will develop into a clearing house for ideas and tests that would work to our mutual advantage.

One of the primary reasons for high maintenance costs is improper design or construction. This is not always the fault of the engineer or contractor. Very often when a plant is built too great a consideration is given to first cost. This results in skimping all through the job by the engineer or contractor in order to meet the demands of the owner to keep down the cost. As a result many parts of the facility wear out and need repair or replacement, where if a small percent of the first cost had been added these would not be necessary for a long time.

## Proper Design

▲ Another reason is that the engineer and contractor are not given sufficient time to properly design the job. Usually contracts are not let far enough ahead of the crop movement to properly consider the requirements for the facility. The owner will try to put off the letting of a contract until he can have some idea of the next crop as if he were only building for that one year instead of for the next twenty or more years.

We also find some superintendents who think they know just what they want based on their experience in one elevator or one locality. The capable engineer or contractor should give proper consideration to these ideas, but if he has the proper background of experience he can give the prospective building the benefit of experience gained in a large variety of elevators and localities. I have seen more than once in my own experience where machines or facilities were installed at the demand of someone in authority based on mistaken ideas. Later on they were found practically useless and the money spent on them wasted.

Whenever possible a complete file of the elevator and the equipment should be kept on file in some place where they would not be lost or destroyed by fire or careless handling. They would be valuable in ordering repairs or replacements or in making alterations or repairs to the elevator structure. They would also be almost indispens-

able in making up a proof of loss in the event of a fire or explosion.

I know of very few cases where records are kept of elevator equipment, showing the original cost, the cost of repairs in labor and material, the cause of breakdown or interruption of service, the length of useful life, and the amount of work performed by the equipment during its life. Such records are kept in other industries and I do not see why similar records cannot be kept of grain elevator equipment. Some of these records would cover a long period of years, but if they were kept faithfully we would have something definite to base our opinions on and not be guessing the way we do now.

## Owners and Lessors

▲ A large percentage of terminal elevators are not owned by the companies operating them and for that reason the operator is not interested in maintenance data, as a large part of that cost is borne by the lessor. There is also another factor in relation to leased houses and that is that the tenant does not use the care in operating that would be used if he were the owner instead of the tenant. The tenant will in many instances neglect maintenance to save money, as he knows the lessor will have to replace worn out equipment if he expects to keep the elevator rented. If the tenant was responsible for replacements he would probably spend more money on repairs and maintenance. In many instances this is short sighted economy, as it increases operating costs and decreases efficiency.

The organization of personnel for elevator maintenance must vary, due to the type of the elevator. These types range from the older type with a large number of legs, conveyors and other equipment driven by one power unit to the most modern type with a few legs, conveyors and equipment driven by individual motors. In all types a definite chain of responsibility should be established from the superintendent to the minor positions. In

(Continued on page 10)



## Abandoned Elevators Stand as Exhibits in

# The Case Against the Truckers

## Who Drag Heavy Loads Over the Public Ways

By H. L. HEINRIKSON

Terminal Grain Corporation, Sioux City

**S**INCE the beginning of time, transportation has been the life line of trade. I am going to review briefly the history of, and relationship between, railroads and the grain business, and draw a comparison between the railroads and the so-called highway carriers.

Going back about 100 years, 1830 to be exact, the construction of the first railroad was begun. Slowly but surely the railroads extended their lines westward from the Atlantic coast, to supplement the water ways. Despite the Civil War, railroads continued to expand, new territories were opened for settlers, and generally the country's resources were developed.

### Railroad Policy

▲ The policy of the railroads has been to cooperate with business, but most outstanding has been their cooperation given farmers not only by providing economical transportation of their products to the world's markets, but in setting up agricultural development departments, employing experts whose duties were to locate settlers on farms, to educate them in the proper preparation of the soil, the selection of seeds, the raising of live stock and the marketing of their products. Farm to market roads were built and financed from the taxpayers' money, to which the railroads contributed generously. In cases of disaster, the railroads were the first to place all of their facilities at the disposal of the victims. When localities became snowbound, no time was lost or expenses spared in getting the lines opened so that the necessities of life could be made available to the people. Often the railroads provided coal from their own supplies for municipalities in order to alleviate suffering. In many instances, the railroads received appeals from counties and states to pay taxes long before they were due so that schools could be

kept going and other emergencies met. Whenever territories suffered from crop failures, which were generally due to drought, the railroads handled necessities into the stricken areas at greatly reduced rates.

I could go on enumerating a great many more things which the railroads have done in line of charity and which most of us consider traditional, but now let me go back to our own business and see how it has progressed. Records indicate that the grain trade grew with the expansion of the railroads. Mutual interest and interdependence, to a certain extent, led to a close cooperation. You are all familiar with the location and erection of grain elevators with necessary track connections at convenient points throughout the grain producing areas. This was the status of the railroad and grain business up to the period of the late twenties or early thirties.

### Motor Trucks Arrive

▲ Let us now go back to about 1915. Motor trucks were replacing the horse and wagon, first in urban service, then in territories not served by railroads. They served a commendable purpose for several years, but with the construction of highways their operation extended until they operated in direct competition with the railroads, first on short haul traffic, later distance became of no consequence. Operating as they did under no regulations whatsoever, they set up their own schedules, and rates varied depending on what shippers or consignees were willing to pay. They selected commodities for transportation which were considered the cream of the traffic, leaving the balance for the railroads. When highways were impassable, they stopped operating until the counties or states, with taxpayers money, opened the highways. The railroads could always carry on regardless of weather—

keeping their lines open at their own expense.

Later these termites kept boring until they branched out into the buying and selling of commodities, in direct competition with legitimate merchants. What effect did this have on our business? What effect did it have on railroad business? Well, gentlemen, the abandoned country elevators, and there are many of them, and the abandoned railroad mileage are monuments to the unregulated ramifications of the trucks.

### An Open Letter

▲ Permit me, gentlemen, to read in part an open letter written by Mr. H. H. Green of Pattonsburg, Mo. Mr. Green is a director and past president of the Missouri Grain, Feed and Millers' Association, and I quote:

"The gypsy trucker shares the established dealers business, but not his responsibilities. He contributes little to community taxes and charities. He carries no large investment in a stock of goods for the customers convenience, as the merchant must, and has no regular place of business where buyers can find him when the need arises. In brief, he is an undependable source of supply. And, since the gypsy does not have to face his customer again tomorrow, or ever, he can indulge in a variety of sharp practices. How can the small-town businessman—or even the town itself—be expected to survive such competition?"

"Of course, there is a place and a need for both highway and rail transportation. We do not wish, nor would we be so foolish as to propose, to

(Continued on page 12)



# X MARKS THE

DID YOU LOOK?

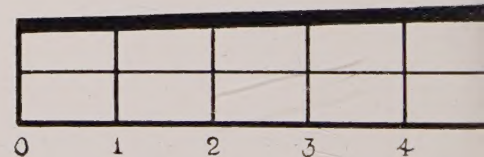
WHAT DID YOU FIND?

Weren't You Shocked to Discover So Many Gapping Openings?

Have You Any Idea of the Massive Network of Interior Channels Back of Those Hair-Line Cracks?

Did You Ever Stop to Think How Water Is Getting Through the Face of the Concrete with Such Conditions Existing,—and How Much?

<u>THE CAUSE:</u>	<u>THE RESULTS:</u>
<u>WATER</u>	Freezing and Thawing
<u>ONLY</u>	Corrosion of Steel
	Deterioration of Concrete
	Volumetric Variations Causing Excessive Cracking
	Many Others



Call in **BEN J. MANY**



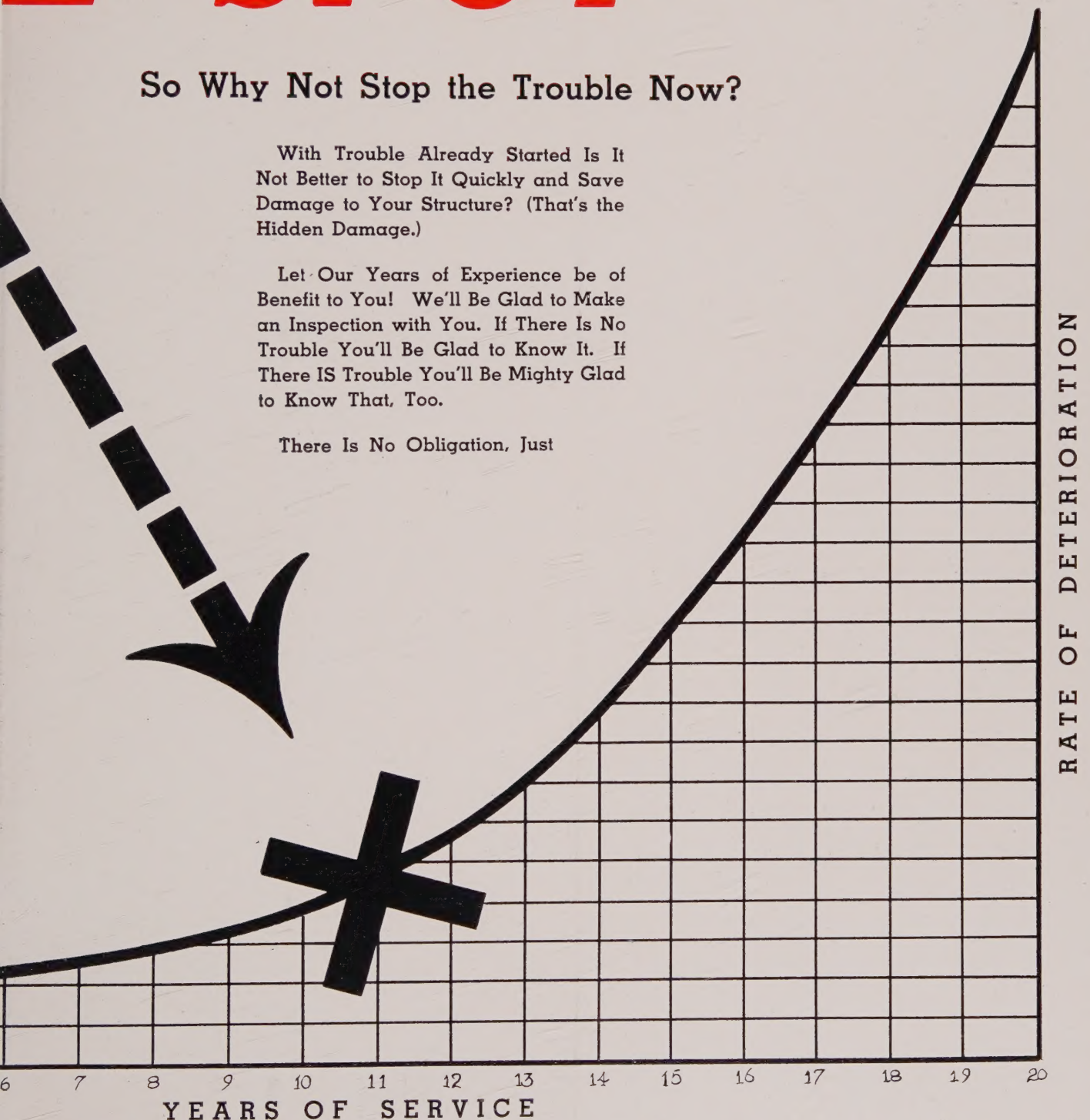
# THE SPOT

So Why Not Stop the Trouble Now?

With Trouble Already Started Is It Not Better to Stop It Quickly and Save Damage to Your Structure? (That's the Hidden Damage.)

Let Our Years of Experience be of Benefit to You! We'll Be Glad to Make an Inspection with You. If There Is No Trouble You'll Be Glad to Know It. If There IS Trouble You'll Be Mighty Glad to Know That, Too.

There Is No Obligation, Just



**CORPORATION**

**30 N. LA SALLE ST.  
CHICAGO, ILLINOIS**



# Clean Machinery, Well Lubricated, Means Long Service . . .

(Continued from page 6)

the older type of elevator driven by one steam unit the engineer should be held responsible for all maintenance and all millwrights and oilers should report to him. It would then be his responsibility to see that his subordinates were doing their work. He should also make periodical inspection of all equipment to see that it is properly kept up and not allow any repairs or replacements to be put off until a breakdown forced them on him.

There are comparatively few elevators that do not have periods when there is very little grain handled. If inspections are properly made, these periods can be used in making repairs and the regular elevator crew can be used to assist the millwright. This, of course, does not apply where agreements with labor unions prohibit it. I realize that in theory this is the general practice, but I have often found actual conditions very much different from the theoretical conditions. In plants where the central steam plant has been replaced with individual motor drivers, a millwright would replace the engineer and in some instances he would have an electrician under him. However, I believe that the electrician could be dispensed with in most cases, as most of his work could be performed by the millwright and the remainder contracted for when needed.

## Periodical Inspections

▲ In elevators where the volume of electrical repairs do not require a full time electrician, it is probably the best policy to select a reliable electrical repair company to make periodical inspection of all electrical equipment and have them make repairs as they become necessary. Where repairs are made by men not fully versed in such work the workmanship is not usually as well performed with the result that finally an expensive job of repair and replacement is necessary. A capable electrician should check all equipment to see that motor bearings are not worn down, that oil in all transformers and controls is clean, that there are no loose connections on equipment and that contacts in switches are not burnt or corroded. He should also see that all controls are properly set and fused and that dust is kept out of all equipment.

When a motor is properly installed in the first place it is practically fool-proof and will run indefinitely if kept properly oiled and clean. Most motors in grain elevators are induction type motors. With this type of motor about the only thing that can happen is to have it burn out and that will not occur if the bearings are kept up and are properly oiled and the motor is kept clean. No overload can affect

it if the controls are properly set and kept clean.

▲ Burnt or corroded contacts on controls will cause sparking and heating and reduce the life of the oil in oil immersed controls and if the oil in the controls is not kept clean it will finally lose its property of quenching the sparks caused in making and breaking contacts. I recently had an experience in a large terminal elevator where there had been improper electrical maintenance. When competent electricians went over the equipment they found a large percentage of control contacts badly burnt, the oil almost solid with dust, and they took out over a bushel of contacts that had become loose and dropped to the bottom of the oil receptacle. The incompetent predecessors had not even taken the trouble to remove contacts that had dropped; they just replaced them and went ahead.

Another thing that happens very often is that when a motor kicks out the controls or blows fuses the maintenance man sets the relays on the controls higher or puts in heavier fuses. That is just the same as putting more weight on the safety valve of a boiler. They say that in the old days of steamboat racing on the Mississippi they used to have a nigger sit on the safety valve to keep it from going off. Well, the other practice amounts to the same thing, as the relays and fuses are nothing but safety valves. What should be done is to locate the trouble and remedy it. A competent electrical inspection will eliminate costly repairs and shutdowns.

## Proper Lubrication

▲ Proper lubrication is essential, as it reduces replacement and power costs and also reduces the fire hazard. In the more modern facilities where anti-friction bearings are used the cost of proper lubrication is greatly reduced. First, because there are practically no line shafts. This reduces the number of bearings that need attention. Second, because anti-friction bearings do not need attention as frequently and, third, because of the reduced amount of lubricating material required. With anti-friction bearings there is far less lubricating material wasted. Where elevators are equipped with the common oil or grease cup bearing it requires one or more men constantly keeping them lubricated. Where anti-friction bearings are used they can usually go for months without much attention and they can be taken care of when the crew is not required for other duties. Attention should also

# THE CALUMET

(Protected by U. S. & Foreign Patents)



**Increased Capacity  
Perfect Discharge  
Superior Wearing  
Quality**



We can also furnish these buckets in a new rustless, non-sparking metal for flour and soft feed. Less than one quarter the weight of steel and at a fraction of the price of standard stainless steel.

*We handle a complete stock of Norway Flathead Bucket Bolts and Spring Washers.*

## B. I. WELLER

SOLE OWNERS of the patent and  
SOLE Licensed Manufacturers in the  
U. S. under this patent.

220 W. Chicago Ave., East Chicago, Ind. 327 S. La Salle St., Chicago, Ill.

THE STRONG-SCOTT MFG. CO., LTD.  
Toronto WINNIPEG Calgary  
Licensed Manufacturers for the Dominion of Canada

R. R. HOWELL & CO.,  
Minneapolis, Minn.  
Northwest Distributors



# Mechanics and Good Housekeeping Reduce Upkeep . . . . .

be given to the kind of lubricant used to see that it is the proper kind for the purpose intended. This is most important, I believe, where gear reducers of the various kinds are used.

Any type of equipment should be thoroughly cleaned at intervals and all lubricant removed, as there are accumulations of metallic particles or grit that accumulate and reduce the life of the machine if not removed. I think that this is not a common practice, as it requires time and the operator usually depends on the addition of new lubricant to force out the contaminated lubricant. He also places too much faith in the dust seals on the better type of bearing. As a further economy, even the waste oil and grease that accumulates from cleaning bearings and machines need not be thrown away, as it can be used to coat the tools and equipment that is not in use and thus prevent rust. A home-made filter can be constructed at very little cost that would filter out practically all of the injurious particles. This salvaged lubricant, while probably not the best thing to use, could be used to lubricate steel car puller cables, for instance, and give them a longer life. The use of drip pans under the common type of bearings should not be overlooked, as they improve cleanliness and reduce fire and safety hazards.

## Maintenance Costs

▲ Maintenance costs can sometimes be economically reduced by a change in equipment. That is forcibly brought to my mind by a condition existing in an elevator under my supervision where we have an old type car puller. Owing to conditions, we have to use a manila rope. If it is ordered of small enough diameter to fit the equipment it will not take the load, so we order a large diameter rope which wears out in a very short time, due to the small diameter of the nigger-head and sheaves over which it passes. I am now trying to have this equipment changed, as we can save money enough on the purchase of rope to pay for the change in about five years.

Belt conveyors are another item that are sometimes abused by the use of guide pulleys, improper concentration, small head and tail pulleys, insufficient clearance between belt and spouts, improper spacing of carrier rolls and keeping the belt too tight. There is only one excuse for guide rollers on a belt conveyor, that is, improper installation and that is a poor excuse. Instead of using guide rollers, find out what is wrong with the instal-

lation and correct it, as roller will wear out the edge of the belt and then the belt will go to pieces. Improper belt concentration will in time crack the belt and thus reduce its life. The use of anything other than thirty degree concentration is not good practice. If you have spillage from a belt, check up on your loading points and find the cause, unless the concentrators are very far apart, in which case more concentrators should be installed or the belt itself is too loose and the carrier rolls tend to spread out the grain stream on the belt at each roll more than if the belt was being run at the proper tension. Head and tail pulleys should be of sufficient diameter so as not to cause separation of plies. Concentrators should not be placed too close to head, tail, or tripper pulleys, so that the change from flat to troughed is too abrupt. Also, see that loading spouts do not touch the belt at any time and particularly watch the belt where there is a vertical change of slope, as the belt will tend to straighten out when power is first applied or when the belt is not loaded.

In elevators equipped with rope drives the rope should be given periodical applications of rope dressing to keep them pliable and lengthen their life.

## Fire Inspection

▲ All fire fighting equipment should

be regularly inspected to see that it is in usable condition. Fire pails should be in their proper place, fire barrels kept filled and water tight. Fire extinguishers should be properly filled and working parts examined to see that they are not corroded. All fire extinguishers should carry a label showing when they were last inspected and filled. Sprinkler systems, standpipe and hose where not normally under pressure should be given pressure tests. In making tests of sprinkler system and standpipes air pressure should be used if possible to avoid water damage to buildings or contents in the event of the failure of any part of the system. I would recommend that the non-freezing solution for fire barrels be a chemical mixture other than salt, as the salt solution is corrosive and is apt to do damage to structures or equipment if a barrel should spring a leak or be overturned.

Many elevators are equipped with a compressed air system with outlets throughout the plant for blowing dust out of motors and other equipment. These should have a pressure of not less than forty pounds at the nozzle and the nozzle should have an opening about one-sixteenth inch diameter, as dust is liable to stick to any surface. A compressed air system of this sort is rather expensive to install but

(Continued on page 13)



Combines Economy and Efficiency in  
all types of Mill and Elevator jobs

## THE DAY COMPANY

2938 Pillsbury Avenue  
Minneapolis, Minnesota

In Canada  
The Day Company of Canada, Ltd.





## COMPETITION is the LIFE OF LEARNING

LESSONS in safety are most easily taught when they are brought to life by competition. That's why the Society of Superintendents sponsors an annual safety contest for its members.

The interest aroused by the contest, whether you win an award or not, furnishes the means whereby your accident record can be controlled. Everyone wants to win. Everyone does.

Although only four trophies are awarded, the real victory lies in the widespread reduction of accident losses that the active interest in safety matters achieves. Put your plant into competition and watch the spirit grow. Write for details.

### Society of Grain Elevator Superintendents

4100 Board of Trade  
Chicago

## Truckers as Gypsy Merchants . . .

(Continued from page 7)  
deprive ourselves or others of any of the real advantages of highway transportation."

During the disastrous droughts of 1934 and 1936, when livestock growers were desperate for feed, thousands of truckers who previously had been hauling for hire began buying grain and trucking it into the stricken area. Others who had been out of work, factory hands, miners, mechanics, even clerks, managed to scrape together enough cash for a down payment on a secondhand truck, and also went into the game. Farmers' sons, seeing a chance to make a stake for themselves, borrowed dad's truck and became, for a time, nomadic feed merchants.

In many communities, the transient truckers have now almost completely taken over the business in feedstuffs once enjoyed by the country elevators and other established merchants.

### Elevators Closed

▲ According to a statement made by Mr. Frank M. Stoll of Kansas City, Secretary of the Associated Southwest Country Elevators, it is estimated that about 600 elevators scattered over the nine states which his organization covers—Illinois, Iowa, Nebraska, Kansas, Missouri, Colorado, Oklahoma, Texas and New Mexico—have closed their doors on account of the itinerant trucker competition.

In conclusion, I want to read you an excerpt from an address by the honorable Harold L. Ickes, Secretary of the Interior, before the 37th Annual Convention of the American Automobile Association, November 16th, 1939: I quote:

"I doubt whether anyone will question the fact that the people started to build good roads so that they might have the pleasure and recreation that is made possible by traveling in their own cars at their own pleasure at reasonable rates of speed. At least this has been what we thought we were paying our road taxes for. But now we know better. We know now that we have been digging into our pockets to build boulevards for trucks. The lord of the highway is the truck driver. The monster which he drives at reckless speed regardless, generally speaking, of the rights of the mere motorist, each year seems to be growing longer and wider and higher. And if one truck isn't big enough to satisfy the road appetite of its owner, he can always attach a trailer. Thirty-five years ago we had rough roads;

narrow roads that were alternately covered with dust or mud. But at any rate we had no trucks.

"I have promised some day to give myself the pleasure of driving down a truck-infested road in the biggest armored tank that I can find and bumping these pests from the road, regardless of where they may light. I wonder if anyone here would like to join me on that joyous occasion.

"As the motorist ventures forth with his family to drive a few miles on a pleasant Sunday afternoon he not infrequently finds himself in a situation that Tennyson might have described in this fashion:

"Trucks in the front of him;  
Trucks in the rear of him;  
Trucks on each side of him  
Backfired and lumbered."

"While the state of mind of the motorist, thus beset, might be written thus:

"His not to reason why,  
His but to pass and die.  
Into the mouth of death,  
Into the fumes of hell,  
Rode the encumbered."

"Although I do not enjoy it, I have learned to endure the gallantry of the truck driver who takes more than his fair share of the road; who passes you at streamliner train pace; who cuts in at headlong speed; who stops suddenly; who carries to your nostrils carbon-monoxide fumes from his exhaust, safe in the knowledge that so far as he is concerned, every motorist travels at his own peril."



### Grain Fumigant Firm Moves to New Quarters

▲ The Weevil-Cide Company of Kansas City have moved to new quarters at 1110 Hickory St., Kansas City, Mo., as a result of a fire which damaged their former plant on the early morning of March 7th.

The fire, originating on a trucking company dock, rapidly spread to the building occupied by the grain fumigant concern. While the blaze caused partial destruction of the building, which was shared by a heavy chemical firm, loss to the Weevil-Cide Company premises was virtually limited to water damage.



### Change Address

▲ "Please have GRAIN sent to me at my new address."—H. H. Arendall, Gordon Storage Warehouse, Omaha, Nebraska.



## Maintenance . . .

(Continued from page 11)

has the advantage of being used under a higher pressure than forty pounds. The ordinary portable blower does not have sufficient pressure to clean motor windings. There are on the market, however, portable spray painting outfits that will develop about forty pounds pressure with a small nozzle opening which are reasonable in price and which will do better work than the other portable blowers. For elevator work they should be equipped with the proper type motor for use in dusty locations. This would be far less expensive than a compressed air system. An outfit of this type equipped with hose and nozzle will enable the operator to blow out all equipment and keep it clean with very little cost.

### Surplus Equipment

▲ In many elevators I have found surplus equipment and supplies scattered all over the place. They should all be kept in one place and in an orderly manner. All obsolete material should be junked and other supplies kept in such condition that they are ready for immediate use to avoid delays in making repairs.

In almost any terminal elevator a small shop equipped with a shear, a sheet metal roll, bending brake, drill press and miscellaneous small tools would be a good investment for the operator. With this equipment practically all repairs could be made with the regular crew and with less expense and delay than where local contractors have to be called in to make them.

The maintenance and repair of structures cover too large a field to attempt to cover in a short article like this. Even these can be taken care of to a large extent by your regular crew in most instances. In this connection, there is one thought that I would like to convey. Grain dust in itself can really be a protection to metal work, as there is a small amount of oil in it and I have seen instances where it has formed a protective film that resisted rust. This is especially true in basements and tunnels where there is a good circulation of air that eliminates the collection of moisture.

In all maintenance do not do a make-shift job on repairs, as it will only result in having to do the job over again later.

Finally, make an annual inspection of property for repairs that will have to be made, so that they can be made in the dull season and before the main crop movement occurs. It is even advisable to look ahead beyond the immediate needs so that your superior can be given some idea as to major repairs and replacements that are apt to become necessary even a year later.

# ARE ALL OF YOUR EGGS IN ONE BASKET?

Most of us don't have enough eggs to observe the old rule of keeping them in different baskets. It's all we can do to cover the bottom of the first basket.

But we can do everything humanly possible to protect that one basket.

Are your fortunes tied up with the fate of a grain elevator? Then it behooves you to watch that elevator. Watch that fine dust which readily suspends itself in explosive concentrations in the air. It's volatile. One little spark from friction, static, tramp metal . . . !

•  
**ROBERTSON SAFETY VENTILATORS** will protect your elevator by removing the fine dust from elevator legs by continuous gravity action. In case of a blast they give way to the force of pent-up gases and flames and minimize the possibility of secondary explosions by continuously venting the gases and the dust.

•  
**ROBERTSON CAPACITY BIN VENTILATORS** will provide a balanced ventilation for your grain bins so as to prevent the stirring up of dust when the bin is being filled or emptied. They are guaranteed not to offer more than .0026 water gauge resistance and not less than 324% free area vs. stack area.

•  
**ROBERTSON PROTECTED METAL** makes the ideal siding and roofing for terminal buildings. Its corrugated steel core is protected from corrosion by processed asphaltic and asbestos coatings. Its Service record all over the world is proof that it will last under all weather and fume conditions.

*Write for catalog.*

## H. H. ROBERTSON CO.

Farmers Bank Bldg.

Pittsburgh, Pa.



## Grain Markets Suffer From Spread of War

▲ War's spread into the lowland countries of Belgium and Holland last month and the answer to hemisphere threats by President Roosevelt was too much for grain brokers to bear without flinching.

July futures in wheat dropped from \$1.08½ a bushel to 79c as if they were obeying the law of gravity. On the 18th of the month Secretary Wallace called for stabilization of prices following a government peg at Winnipeg two days before. In an all-day Sunday meeting the Chicago Board of Trade decided to set the bottom at Saturday's figure and Kansas City and others followed suit.

In the path of the nation's business the month of May went down as a turning point from which two paths branched off into the future. One led to a dead end of rock bottom prices, little trade; while the other led to a national defense boom in the heavy industries, machine tools and aircraft.

Commodity and security prices followed both these paths, war babies up, peace trading down; and although grain and grain products are essential to the success of any long siege of war, these were not the immediate concern of the warring nations. Down they went.

The cry of lost markets was heard above the tickers' chatter. In the year of 1938, for example, the now lost markets in the Scandinavian countries plus Belgium and Holland imported some 85 million bushels of wheat. The threatened markets of the Mediterranean, of which Italy is by far the greatest, received another 85 million bushels; while the still open markets of the United Kingdom alone took 199 million bushels. But the actual loss of markets for 365 million bushels of wheat and corresponding amounts of other grains was small beside the loss from high insurance rates, high shipping costs and the diversion of funds from bread-buying to rifle boring.



### Car Returns Ordered

▲ Because of "unpredictable trends in the handling of all grains due to government controls and complications of the European war" all western railroads were ordered by the Association of American Railroads to return box cars promptly in order to expedite the movement of the 1940 grain crop.

Harvesting begins soon in the Southwest and will continue northward during June and July.

## SOCIETY DIRECTOR

▲ W. A. Thomson, Jr., Louisville, Kentucky, was recently elected a director of the Society of Grain Elevator Superintendents. In particular, Mr. Thomson represents the superintendents of the feed - processing plants.



Mr. Thomson is president of the Thomson Elevator Company whose plant is located at Brook and Eastern Parkway in Louisville.



## Omaha Chapter Holds April Meeting

▲ J. L. Guinan, Missouri Valley, Iowa, and Bob Lare, Nebraska City, Nebraska, were welcomed into the Society of Supers at the April meeting of the Omaha Chapter.

"The meeting was a humdinger," writes Charles F. Walker. "Mr. Lare, speaking for the Nebraska City Chamber of Commerce, invited us to hold a summer meeting in his city."

Mr. Guinan is with Loveland Grain Company, Mr. Lare with Butler-Welsh and Mr. Walker with Archer-Daniels-Midland at Council Bluffs, Iowa.



### Farm Fund Approved

▲ Senate Banking Committee members have approved the proposed \$500,000,000 fund for crop loans designed to protect farmers from wartime price fluctuations. The bill now goes to the Senate for consideration.



Courtesy Chicago Daily News

## Safety Meeting Held By Kansas City Supers

▲ To start the ball rolling in its campaign for safety education the Kansas City Chapter of the Supers' Society dedicated its May 21st meeting to a program of safety topics. Main speaker was from the Kansas City Industrial Safety Committee.

New officers installed at the meeting were president, Claude L. Darbe, Simmonds-Shield-Theis Co.; first vice-president, William Deegan, Continental Grain Co.; second vice-president, Wilbur Holte, Cargill, Inc., and secretary-treasurer, P. A. Kier, Standard Milling Co.

On the Safety Committee chairman W. H. Kamp, Ralston-Purina Co., is assisted by Fred Gallehugh, Uhlmann Grain Co., H. A. Kimberlin, Midland Flour Mills, and E. Matson, Cargill, Inc.

As vice-president William Deegan acts as chairman of the Program Committee. Wm. J. Rice, Standard Milling Co., Camden Riley, Hart-Bartlett-Sturdevant, and C. N. Winslow, Norris Grain Co. are members of the delegation.

Roy Browne, Davis-Nolan-Merrill Co., Hugh King, Scoular-Bishop Co., John Larkin, Moore-Seaver Grain Co., and Vice-President Wilbur Holte make up the Membership Committee.

National past president T. C. Manning heads the Operators Committee together with Harley Hixon, Continental Grain Co., E. I. Odell, Davis-Noland-Merrill Co., and Charles Peterson, Simmonds-Shield-Theis Co.

Directors of the Chapter are Roy Harp, Wolcott-Lincoln Co., H. B. Madison, Simmonds-Shield-Theis Co., E. Matson, Cargill, Inc., George Stafford, Mid-Continent Grain Co. Roy E. Browne, Davis-Noland-Merrill Co., is Chairman of the Directors and W. H. Kamp is an honorary member of the Committee.



### TAKING NO CHANCES

The village "softie" if offered the choice of a shilling or a penny would always take the penny. A visitor heard about this, so decided to test him. Sure enough he took the penny, not the shilling. Later in the day the visitor met "Softie" in a quiet lane and asked him why he had taken the penny.

"Well, you see, it's like this. As you be a stranger, I tell ye, but don't let on in the village. I knows the difference in copper and silver, but if I ever took the silver nobody'd try me again."—Montreal Daily Star.



## Chicago Chapter Visits Decatur

▲ Some 35 members of the Chicago Chapter of the Supers' Society met in Decatur, Illinois, Saturday, May 4, to visit the A. E. Staley and the Archer-Daniels-Midland company's grain elevators in that city. Sixteen took advantage of the special transportation arrangements while the others drove in from Chicago and neighboring cities.

After visiting the beautiful A. E. Staley office building and wandering through the offices, conference rooms and cafeteria, the visitors drove to the five million bushel Archer-Daniels plant where they inspected the newest in elevator equipment. Features of the plant were a car-dumper, large-size elevator legs, extra-width conveyor belts and oversize hopper scales, all built to handle the grain as fast as the car-dumper can drop it into the receiving hopper.

At the A. E. Staley plant the members inspected two new rows of tanks built on to both sides of the original structure along with the new cross belts on the bin floor, and a new dust-collector system. The new dryer bins, built of four circular tanks set entirely apart from the elevator proper and fed by a newly-installed system of conveyor belts and spouting, were regarded with much interest by the visiting supers.

The group left Decatur on the Blue Bird Limited at 6:37 and were back in Chicago at 9:30.



## Minneapolis Chapter Elects New Officers

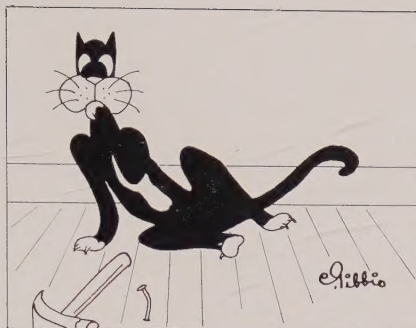
▲ F. Maynard Losie, Hallet and Carey superintendent, was elected president of the Minneapolis Chapter of the Supers' Society at a regular meeting held April 21st. Vice-president for the coming year is Vin Shea, Van Dusen-Harrington Company; Secretary Jim Auld, Hales and Hunter; Treasurer Ray Brusseau, Atlantic Elevator Company.

Mr. Losie succeeds M. M. Noxon, Ralston-Purina Company, as president.



### Round Tables

▲ Percy C. Poulton, SOGES President, writes, "The round-table discussions got off to a really fine start and developed a lot of interest, so much in fact, I believe we should be well-advised to make a full afternoon on the convention program for such an item."



### SNOOPER

#### THE BOILER ROOM CAT

"Keep hammering away at Safety ideas—you're bound to make an impression in time."



## Car Loadings Are Down This Month

▲ Loading of grain and grain products during the week ending May 18 was down 3,415 cars below the previous week for a total of 30,754.

Car loading as a whole was up 10.8% above the same week in 1939 and 24.4% over the corresponding week of 1938.



### Better and Better

▲ "I feel the magazine is getting better and better every month with more things that are particularly interesting to the elevator superintendent."—L. C. Irwin, Searle Terminal Limited, For William, Ontario.

## Wartime Conditions May Return Again

▲ Conditions in grain elevators during the last period of war have been recalled by F. A. Peterson, Norris Grain Company superintendent at Baltimore. He writes:

"I was a soldier during the World War, therefore, didn't get in on the difficulties attending grain elevator operation at that time. Brother 'Jack' was in charge of all the elevators in Baltimore at that time. All were operating on a 24-hour go and had one h— of a time to get enough men to fill the crews for speedy work. All had waterfront passes and these were shown to U. S. Army sentries before men could get in the elevator yards.

"Passes carried the user's photograph and all persons were 'frisked' for weapons every time they passed in or out. An elevator man familiar with the men working in the elevator was stationed at the entrance to help identify persons going through.

"At present, railway police are stopping everybody that has any reason to go into the three export houses. Up to now, passes are not required.

"Maybe, later on we can get up a story on the happening about the waterfront during the World War that will be of interest to Supers."



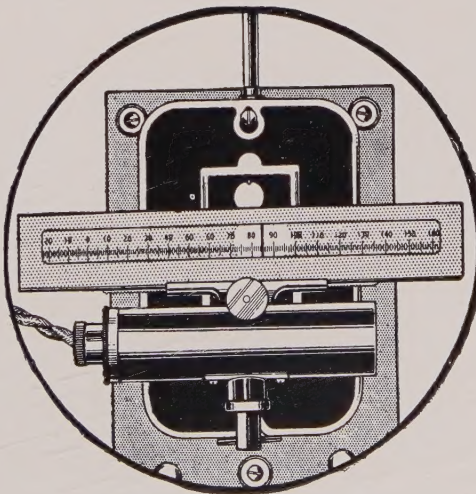
"Is your son going to be married?"

"No, I don't believe he ever will. He's studying for a bachelor's degree."

## The "I's" Have It

Investigate the merits of the ZELENY SYSTEM!

Insist on ZELENY fittings in the bin for floor slab!



Install a complete ZELENY THERMOMETER SYSTEM in **your** elevator!

Inquiries for estimates solicited. Quotations submitted without obligation.

**ZELENY  
THERMOMETER  
COMPANY**

542 South Dearborn Street  
Chicago, Illinois




# PROFIT PARTNERS


## Together They Meet Every Cleaning and Grading Requirement!

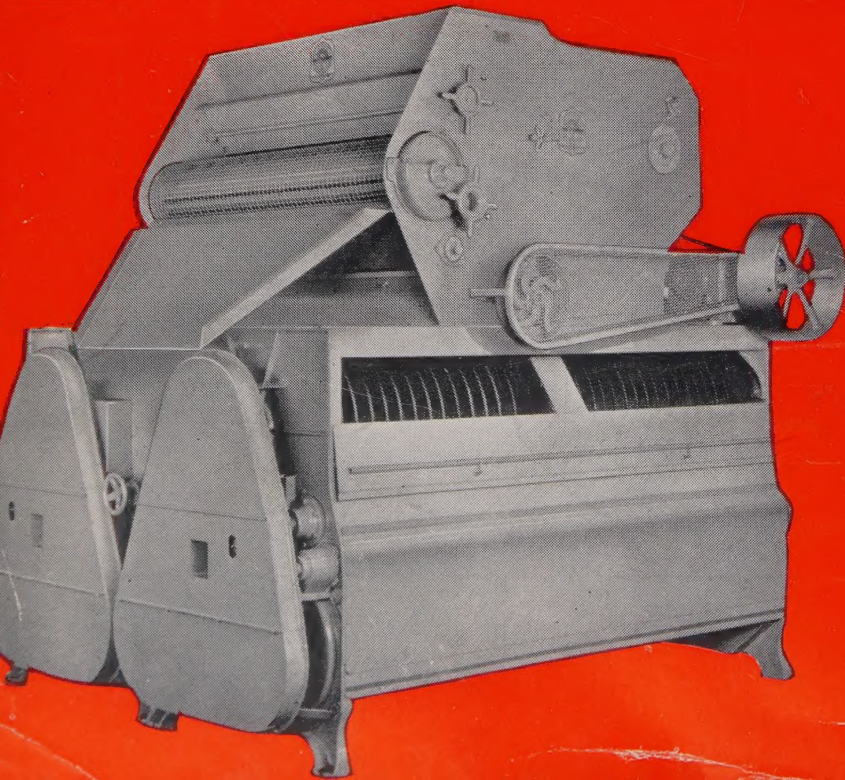
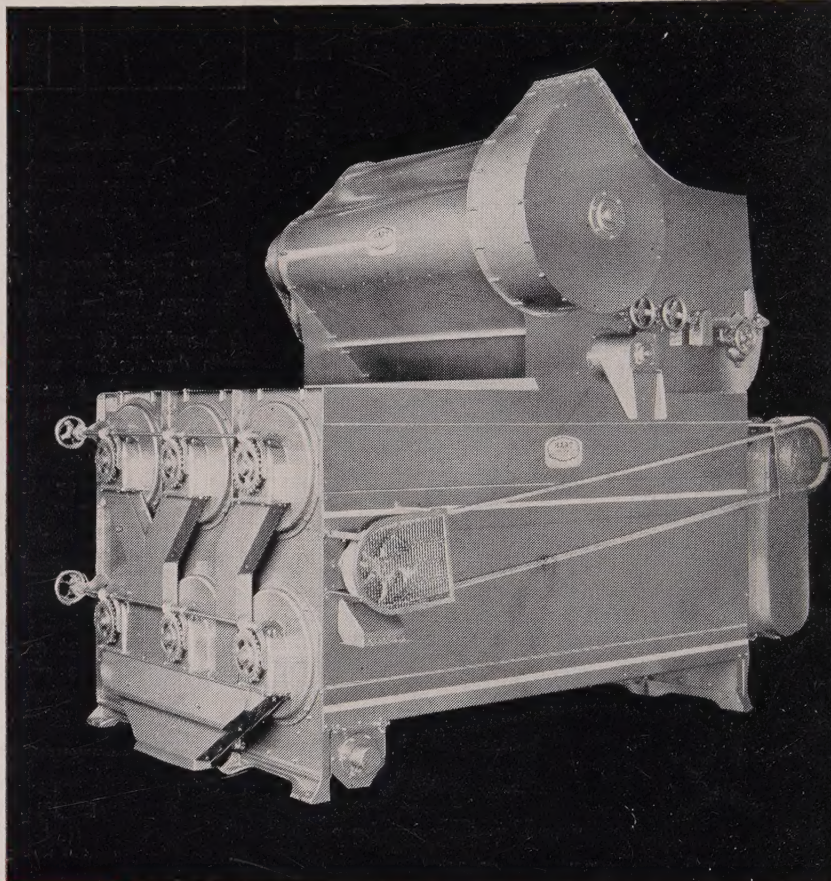


### GRADE BY PLUMPNESS

Grade barley by plumpness, producing two, three, four or more grades as desired. Grade rye, providing two grades, plump and thin. In the Hart Uni-flow Width Grader, with or without scalper, accurate width separations can be performed with efficiency, flexibility and capacity that far surpass any previous standards. 

### SEPARATE BY LENGTH

Clean barley, removing the wheat, skinned and broken barley, oats, wild oats, Trebi and weed seeds. Clean wheat, durum and rye, removing all shorter and longer foreign materials. The Carter Disc-Cylinder Separator is a complete cleaner, performing 5 major separations in one operation plus scalping and aspiration. 



### A Complete System in Two Compact Machines

Here are two outstanding machines that work together to make substantial profits because, together, they make a complete 2-in-1 system for the processing of grain. Both are compact, low in power requirements—both have been especially designed to widen the profit margin per bushel. The Carter Disc-Cylinder Separator will clean more bushels more rapidly and more thoroughly per dollar of investment than any other standard cleaning equipment. The Hart Uni-flow Width Grader provides an accurate width separation on cylinders, permitting at the same time, wide flexibility in adjustment without change of equipment. These two machines have been making thousands of dollars for terminal elevators where they have been installed. Get the description and prices without delay.

## Hart-Carter Company

706 19th Avenue N. E.

Minneapolis, Minnesota